

Export Corn

Corn Grades and Grade Requirements

Corn is divided into three classes: Yellow corn, White Corn, and Mixed corn. There are no subclasses of corn. Each class of corn is divided into five U.S. numerical grades and U.S.

Sample grade. Special grades are provided to emphasize the qualities or conditions affecting the value of the corn. These special grades are made a part of the grade designation but do not affect the numerical or Sample grade designation.

U.S. Standards for Corn

Grade	Minimum test weight per bushel (pounds)	Maximum limits of -		
		Damaged kernels		Broken corn and foreign material (percent)
		Heat-damaged kernels (percent)	Total damaged kernels (percent)	
U.S. No. 1	56.0	0.1	3.0	2.0
U.S. No. 2	54.0	0.2	5.0	3.0
U.S. No. 3	52.0	0.5	7.0	4.0
U.S. No. 4	49.0	1.0	10.0	5.0
U.S. No. 5	46.0	3.0	15.0	7.0
U.S. Sample grade				

U.S. Sample grade is corn that:

- (a) Does not meet the requirements for the grades U.S. Nos. 1, 2, 3, 4, or 5; or
- (b) Contains stones which have an aggregate weight in excess of 0.1 percent of the sample weight, 2 or more pieces of glass, 3 or more *crotalaria* seeds (*Crotalaria* spp.), 2 or more castor beans, 8 or more cockleburs, 4 or more particles of an unknown foreign substance(s) or a commonly recognized harmful or toxic substance(s), or animal filth in excess of 0.20 percent in 1,000 grams; or
- (c) Has a musty, sour, or commercially objectionable foreign odor; or
- (d) Is heating or otherwise of distinctly low quality.

Corn

Definitions

Test weight (lb/bu) is pounds of grain per Winchester bushel (2,150.42 cubic inches) as determined using an approved device. Test weight is determined before the removal of broken corn and foreign material.

Test weight (kg/hl) is the metric system equivalent to pounds per bushel. Kilograms per hectoliter are calculated by multiplying pounds per bushel by 1.287.

Moisture is the water content of grain as determined by an approved moisture meter. The percentage of moisture in a sample does not affect the numerical grade.

Broken corn is all matter that passes readily through a 12/64-inch round-hole sieve and over a 6/64-inch round-hole sieve. The percentage of broken corn by itself does not affect the numerical grade.

Foreign material is all matter that passes readily through a 6/64-inch round-hole sieve and all matter other than corn that remains on top of the 12/64-inch round-hole sieve. The percentage of foreign material by itself does not affect the numerical grade.

Broken corn and foreign material is all matter that passes readily through a 12/64-inch sieve, and all matter other than corn that remains in the sieved sample.

Damaged kernels (total) are kernels and pieces of corn kernels that are badly ground-damaged, badly weather-damaged, diseased, frost-damaged, germ-damaged, heat-damaged, insect-bored, mold-damaged, sprout-damaged, or otherwise materially damaged.

Heat-damaged kernels are kernels and pieces of corn kernels that are materially discolored by excessive respiration, with dark discoloration extending out of the germ, through the sides, and into the back of the kernel.

Mixed corn is corn that does not meet the color requirements for either of the classes Yellow corn or White corn, and which includes White-capped Yellow corn.

Oil, protein, and starch percentages in corn are determined by an approved near infrared transmittance (NIRT) instrument calibrated to approved methods. Percent corn oil, protein, or starch is reported on a dry matter basis unless other basis is requested. The level of oil, protein, or starch in a sample does not affect the numerical grade.

Table 9. U.S. Corn Exports: Number of lots and quantity exported by class and grade, 1997-99

Class	Grade	1997		1998		1999	
		Number of Lots	Metric Tons	Number of Lots	Metric Tons	Number of Lots	Metric Tons
Yellow Corn	U.S. No. 1	28	208,700	51	446,083	83	559,986
	U.S. No. 2	864	17,807,087	1,023	18,464,394	1,276	26,002,081
	U.S. No. 3	641	21,793,331	598	18,946,037	661	21,836,392
	U.S. No. 4	4	22,541	2	25,675	2	2,686
	U.S. No. 5	1	3,408	3	14,024	--	--
	U.S. Sample						
	Grade	1	3,938	--	--	--	--
	Not inspected	9	30,369	2	4,962	1	2,548
	All lots	1,548	39,869,374	1,679	37,901,175	2,023	48,403,693
White Corn	U.S. No. 1	7	43,295	5	29,327	29	200,788
	U.S. No. 2	33	343,105	47	746,293	64	953,055
	U.S. No. 3	1	2,874	4	10,990	--	--
	U.S. No. 5	2	2,552	--	--	--	--
	U.S. Sample						
	Grade	--	--	1	1,435	--	--
All Classes	All lots	43	391,826	57	788,045	93	1,153,843
	U.S. No. 1	35	251,995	56	475,410	112	760,774
	U.S. No. 2	897	18,150,192	1,070	19,210,687	1,340	26,955,136
	U.S. No. 3	642	21,796,205	602	18,957,027	661	21,836,392
	U.S. No. 4	4	22,541	2	25,675	2	2,686
	U.S. No. 5	3	5,960	3	14,024	--	--
	U.S. Sample						
Grade	Not inspected	1	3,938	1	1,435	--	--
	All lots	9	30,369	2	4,962	1	2,548
		1,591	40,261,200	1,736	38,689,220	2,116	49,557,536

-- =No lots reported in this category.

Not inspected=These lots were sold without grade designation.

Table 10. Summary of export Yellow corn quality, 1997-99

Factor	Grade	Grade Limit	1997				1998				1999			
			No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High
Test Weight (lb/bu)	U.S. No. 1	56.0	28	57.9	56.2	59.4	51	57.9	56.0	60.3	83	58.0	56.2	60.2
	U.S. No. 2	54.0	864	55.7	54.0	59.9	1,023	56.9	54.0	60.9	1,276	57.1	54.0	61.4
	U.S. No. 3	52.0	641	55.6	52.7	59.2	597	57.0	53.0	59.9	661	57.3	52.6	60.6
	U.S. No. 4	49.0	4	53.3	49.5	53.9	2	56.6	56.6	56.6	2	55.4	51.4	56.5
	U.S. No. 5	46.0	1	56.3	56.3	56.3	3	55.8	54.4	57.5	--	--	--	--
	U.S. Sample													
	Grade	N/A	1	53.8	53.8	53.8	--	--	--	--	--	--	--	--
	All lots	N/A	1,539	55.7	49.5	59.9	1,676	57.0	53.0	60.9	2,022	57.2	51.4	61.4
Test Weight (kg/hl)	U.S. No. 1	N/A	28	74.5	72.3	76.5	51	74.5	72.1	77.6	83	74.7	72.3	77.5
	U.S. No. 2	N/A	864	71.8	69.5	77.1	1,023	73.2	69.5	78.4	1,276	73.5	69.5	79.0
	U.S. No. 3	N/A	641	71.6	67.8	76.2	597	73.4	68.2	77.1	661	73.7	67.8	78.0
	U.S. No. 4	N/A	4	68.6	63.7	69.4	2	72.9	72.8	72.9	2	71.3	66.2	72.7
	U.S. No. 5	N/A	1	72.5	72.5	72.5	3	71.8	70.1	74.0	--	--	--	--
	U.S. Sample													
	Grade	N/A	1	69.2	69.2	69.2	--	--	--	--	--	--	--	--
	All lots	N/A	1,539	71.7	63.7	77.1	1,676	73.3	68.2	78.4	2,022	73.6	66.2	79.0
Moisture	U.S. No. 1	N/A	28	14.5	13.1	15.2	51	14.3	13.7	14.9	83	14.4	13.5	15.0
	U.S. No. 2	N/A	864	14.4	12.3	15.4	1,023	14.3	12.6	15.3	1,276	14.2	11.2	15.1
	U.S. No. 3	N/A	641	14.7	13.3	15.7	597	14.6	5.2	15.5	661	14.4	0.0	15.1
	U.S. No. 4	N/A	4	14.0	11.3	14.2	2	14.1	14.1	14.2	2	14.0	14.0	14.1
	U.S. No. 5	N/A	1	14.8	14.8	14.8	3	14.0	13.8	14.1	--	--	--	--
	U.S. Sample													
	Grade	N/A	1	14.6	14.6	14.6	--	--	--	--	--	--	--	--
	All lots	N/A	1,539	14.6	11.3	15.7	1,676	14.5	5.2	15.5	2,022	14.3	0.0	15.1
Heat-damaged Kernels	U.S. No. 1	0.1	28	0.0	0.0	0.0	51	0.0	0.0	0.0	83	0.0	0.0	0.0
	U.S. No. 2	0.2	864	0.0	0.0	0.1	1,023	0.0	0.0	0.1	1,276	0.0	0.0	0.1
	U.S. No. 3	0.5	641	0.0	0.0	0.2	597	0.0	0.0	0.2	661	0.0	0.0	0.1
	U.S. No. 4	1.0	4	0.0	0.0	0.0	2	0.0	0.0	0.0	2	0.1	0.0	0.1
	U.S. No. 5	3.0	1	0.0	0.0	0.0	3	0.0	0.0	0.0	--	--	--	--
	U.S. Sample													
	Grade	N/A	1	0.0	0.0	0.0	--	--	--	--	--	--	--	--
	All lots	N/A	1,539	0.0	0.0	0.2	1,676	0.0	0.0	0.2	2,022	0.0	0.0	0.1
Damaged Kernels (Total)	U.S. No. 1	3.0	28	1.7	0.7	2.6	51	2.1	0.7	3.0	83	1.6	0.0	2.9
	U.S. No. 2	5.0	864	2.5	0.6	5.0	1,023	3.2	0.6	5.0	1,276	2.5	0.0	4.9
	U.S. No. 3	7.0	641	2.9	0.3	6.6	597	4.1	0.5	7.0	661	2.8	0.0	6.7
	U.S. No. 4	10.0	4	7.7	5.3	8.5	2	1.4	1.1	7.6	2	3.3	3.2	3.6
	U.S. No. 5	15.0	1	2.4	2.4	2.4	3	3.1	0.5	5.5	--	--	--	--
	U.S. Sample													
	Grade	N/A	1	3.5	3.5	3.5	--	--	--	--	--	--	--	--
	All lots	N/A	1,539	2.7	0.3	8.5	1,676	3.7	0.5	7.6	2,022	2.6	0.0	6.7

continued

Table 10. Summary of export Yellow corn quality, 1997-99--Continued

Factor	Grade	1997						1998						1999						
		Grade Limit	No. of Lots			No. of Lots			No. of Lots			Avg.	Low	High	Avg.	Low	High	Avg.	Low	High
			Avg.	Low	High	Avg.	Low	High	Avg.	Low	High				Avg.	Low	High	Avg.	Low	High
Broken Corn and Foreign Material	U.S. No. 1	2.0	28	1.8	1.0	2.0	51	1.8	1.1	2.0	83	1.7	1.0	2.0						
	U.S. No. 2	3.0	864	2.7	1.2	3.0	1,023	2.7	1.0	3.0	1,276	2.6	0.0	3.0						
	U.S. No. 3	4.0	641	3.6	1.9	4.0	597	3.4	0.0	4.0	661	3.3	1.4	4.0						
	U.S. No. 4	5.0	4	3.6	3.0	3.7	2	4.0	1.5	4.1	2	3.0	1.3	3.5						
	U.S. No. 5	7.0	1	5.6	5.6	5.6	3	4.5	2.3	6.1	--	--	--	--						
	U.S. Sample																			
	Grade	N/A	1	8.9	8.9	8.9	--	--	--	--	--	--	--	--						
	All lots	N/A	1,539	3.2	1.0	8.9	1,676	3.0	0.0	6.1	2,022	2.9	0.0	4.0						
	Broken Corn	U.S. No. 1	N/A	2	1.5	1.5	1.6	3	1.4	1.3	1.5	3	1.3	1.3	1.4					
	U.S. No. 2	N/A	209	2.0	0.8	2.4	182	2.0	1.2	2.7	177	1.9	0.7	2.4						
Foreign Material	U.S. No. 3	N/A	117	2.5	0.5	3.0	46	2.5	1.8	3.6	105	2.2	0.1	2.9						
	U.S. No. 4	N/A	--	--	--	--	--	--	--	--	--	--	--	--						
	U.S. No. 5	N/A	--	--	--	--	1	1.7	1.7	1.7	--	--	--	--						
	U.S. Sample																			
	Grade	N/A	--	--	--	--	--	--	--	--	--	--	--	--						
	All lots	N/A	328	2.2	0.5	3.0	232	2.2	1.2	3.6	285	2.1	0.1	2.9						
	U.S. No. 1	N/A	2	0.3	0.3	0.4	3	0.4	0.3	0.4	3	0.3	0.3	0.4						
	U.S. No. 2	N/A	209	0.7	0.3	1.1	182	0.7	0.3	2.0	178	0.6	0.3	2.8						
	U.S. No. 3	N/A	117	1.0	0.5	2.4	45	1.0	0.5	1.5	106	0.8	0.3	3.0						
	U.S. No. 4	N/A	--	--	--	--	--	--	--	--	--	--	--	--						
	U.S. No. 5	N/A	--	--	--	--	1	0.6	0.6	0.6	--	--	--	--						
	U.S. Sample																			
	Grade	N/A	--	--	--	--	--	--	--	--	--	--	--	--						
	All lots	N/A	328	0.8	0.3	2.4	231	0.8	0.3	2.0	287	0.7	0.3	3.0						

N/A = Does not apply.

-- = No lots reported in this category.

Table 11. Summary of export White corn quality, 1997-99

Factor	Grade	Grade Limit	1997			1998			1999					
			No. of Lots		Avg.	Low	High	No. of Lots		Avg.	Low	High		
			No. of Lots	Avg.				No. of Lots	Avg.					
Test Weight (lb/bu)	U.S. No. 1	56.0	7	59.3	58.3	60.0	5	59.1	57.4	60.0	29	59.8	56.6	62.1
	U.S. No. 2	54.0	33	58.3	56.7	60.1	47	59.2	56.4	60.6	64	59.6	57.9	62.1
	U.S. No. 3	52.0	1	58.2	58.2	58.2	4	58.7	58.0	60.2	--	--	--	--
	U.S. No. 5	46.0	2	56.7	55.4	57.8	--	--	--	--	--	--	--	--
	U.S. Sample													
	Grade	N/A	--	--	--	--	1	58.1	58.1	58.1	--	--	--	--
	All lots	N/A	43	58.4	55.4	60.1	57	59.2	56.4	60.6	93	59.6	56.6	62.1
Test Weight (kg/hl)	U.S. No. 1	N/A	7	76.4	75.0	77.3	5	76.1	73.9	77.2	29	76.9	72.9	79.9
	U.S. No. 2	N/A	33	75.1	73.0	77.4	47	76.3	72.6	78.0	64	76.7	74.6	79.9
	U.S. No. 3	N/A	1	74.9	74.9	74.9	4	75.6	74.7	77.5	--	--	--	--
	U.S. No. 5	N/A	2	73.0	71.3	74.4	--	--	--	--	--	--	--	--
	U.S. Sample													
	Grade	N/A	--	--	--	--	1	74.8	74.8	74.8	--	--	--	--
	All lots	N/A	43	75.2	71.3	77.4	57	76.2	72.6	78.0	93	76.7	72.9	79.9
Moisture	U.S. No 1	N/A	7	14.2	13.9	14.5	5	13.8	13.4	14.8	29	13.9	12.9	14.9
	U.S. No. 2	N/A	33	14.2	13.1	14.5	47	13.9	11.1	14.5	64	14.0	11.9	14.6
	U.S. No. 3	N/A	1	12.7	12.7	12.7	4	13.7	13.2	14.8	--	--	--	--
	U.S. No. 5	N/A	2	13.3	12.9	13.7	--	--	--	--	--	--	--	--
	U.S. Sample													
	Grade	N/A	--	--	--	--	1	14.6	14.6	14.6	--	--	--	--
	All lots	N/A	43	14.2	12.7	14.5	57	13.9	11.1	14.8	93	14.0	11.9	14.9
Heat-damaged Kernels	U.S. No. 1	0.1	7	0.0	0.0	0.0	5	0.0	0.0	0.0	29	0.0	0.0	0.0
	U.S. No. 2	0.2	33	0.0	0.0	0.0	47	0.0	0.0	0.0	64	0.0	0.0	0.0
	U.S. No. 3	0.5	21	0.0	0.0	0.0	4	0.0	0.0	0.0	--	--	--	--
	U.S. No. 5	3.0	2	0.0	0.0	0.0	--	--	--	--	--	--	--	--
	U.S. Sample													
	Grade	N/A	--	--	--	--	1	0.0	0.0	0.0	--	--	--	--
	All lots	N/A	43	0.0	0.0	0.0	57	0.0	0.0	0.0	93	0.0	0.0	0.0
Damaged Kernels (Total)	U.S. No. 1	3.0	7	1.6	0.9	2.3	5	1.7	1.1	2.4	29	1.1	0.2	2.9
	U.S. No. 2	5.0	33	2.2	0.9	4.5	47	2.6	0.5	4.9	64	1.9	0.3	5.0
	U.S. No. 3	7.0	1	1.2	1.2	1.2	4	3.6	2.9	6.1	--	--	--	--
	U.S. No. 5	15.0	2	3.4	1.2	6.0	--	--	--	--	--	--	--	--
	U.S. Sample													
	Grade	N/A	--	--	--	--	1	5.6	5.6	5.6	--	--	--	--
	All lots	N/A	43	2.1	0.9	6.0	57	2.6	0.5	6.1	93	1.7	0.2	5.0
Broken Corn and Foreign Material	U.S. No. 1	2.0	7	1.7	1.4	1.9	5	1.6	1.2	1.8	29	1.7	0.8	2.0
	U.S. No. 2	3.0	33	2.5	1.1	2.9	47	2.5	1.3	3.0	64	2.3	0.8	3.0
	U.S. No. 3	4.0	1	1.1	1.1	1.1	4	3.1	1.3	3.8	--	--	--	--
	U.S. No. 5	7.0	2	5.5	5.4	5.5	--	--	--	--	--	--	--	--
	U.S. Sample													
	Grade	N/A	--	--	--	--	1	2.1	2.1	2.1	--	--	--	--
	All lots	N/A	43	2.4	1.1	5.5	57	2.5	1.2	3.8	93	2.2	0.8	3.0

continued

Table 11. Summary of export White corn quality, 1997-99--Continued

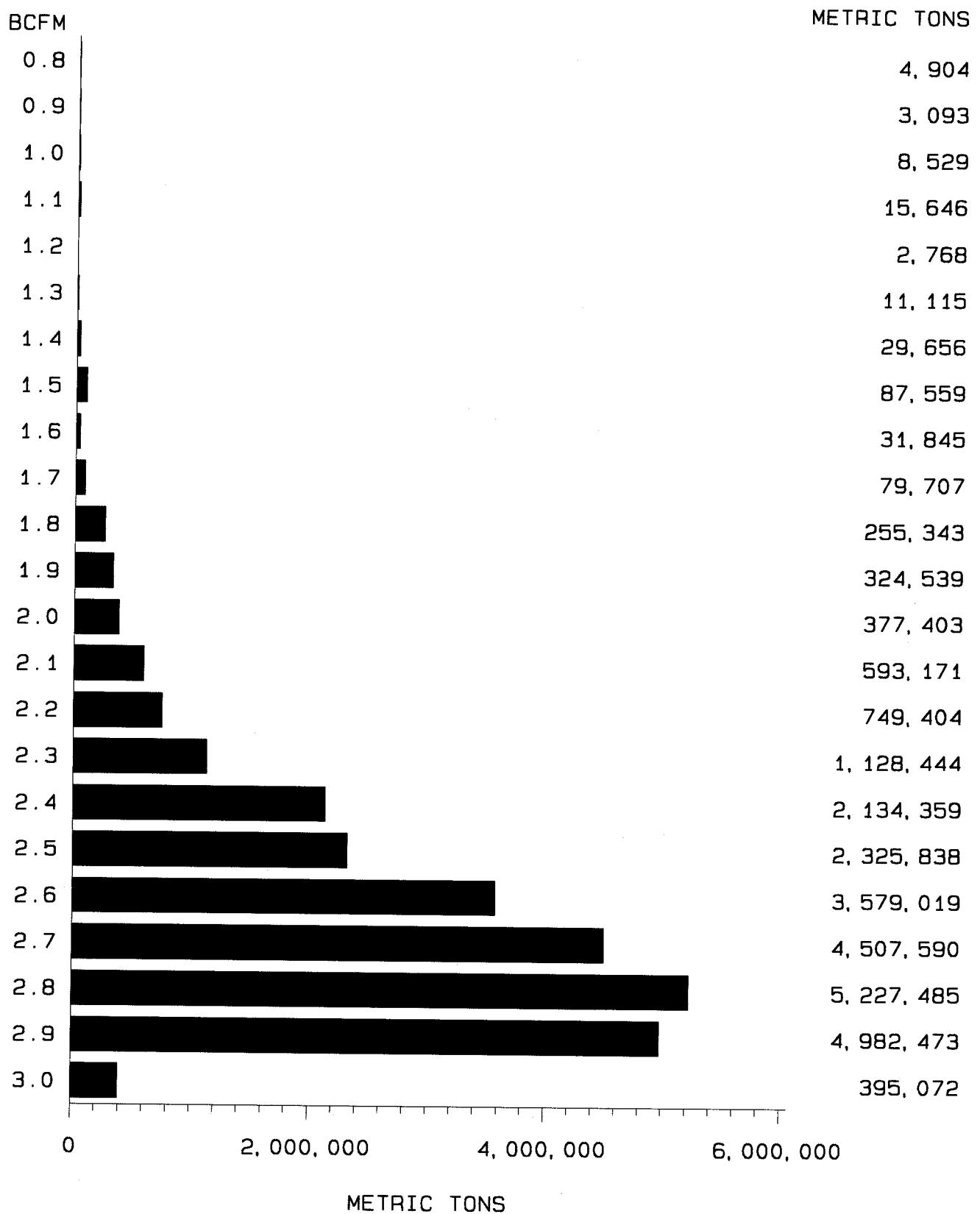
Factor	Grade	Grade Limit	1997			1998			1999					
			No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High
Broken Corn	U.S. No. 1	N/A	--	--	--	--	--	--	--	--	10	1.4	1.0	1.7
	U.S. No. 2	N/A	5	1.8	1.5	2.1	6	1.7	1.0	2.2	4	1.2	0.6	2.2
	U.S. No. 3	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. No. 5	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	All lots	N/A	5	1.8	1.5	2.1	6	1.7	1.0	2.2	14	1.3	0.6	2.2
Foreign Material	U.S. No. 1	N/A	--	--	--	--	--	--	--	--	10	0.4	0.3	0.5
	U.S. No. 2	N/A	5	0.6	0.5	0.7	6	0.5	0.3	0.8	4	0.7	0.1	1.8
	U.S. No. 3	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. No. 5	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	U.S. Sample Grade	N/A	--	--	--	--	--	--	--	--	--	--	--	--
	All lots	N/A	5	0.6	0.5	0.7	6	0.5	0.3	0.8	14	0.4	0.1	1.8

N/A=Does not apply.

--=No lots reported in this category.

U.S. CORN EXPORTED, 1999

DISTRIBUTION FOR BCFM — GRADE 2



U.S. CORN EXPORTED, 1999

DISTRIBUTION FOR BCFM — GRADE 3

